

**Work Order ID 65591**

Thursday, January 20, 2011 10:22:05 AM



Page 1

**DRAW GREEN**

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: MF Date: 11-01-20

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2580

Rev.D DEO-D1

100

0.00



DC

Document Control

DOCUMENT CONTROL

Memo

0.00

Photocopy D205-634 bluefile &amp; type labels per PPP D205-634-041 CHG003

N/A

110

0.00



CNC Bend 1

CNC Delta 100 Bender

BENDING MACHINE - SKIDTUBES

Memo

0.00

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

1 0 BE11/03/04

**Work Order ID 65591**

Thursday, January 20, 2011 10:22:05 AM



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Item ID: D205-634-041

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Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  Skidtubes	<b>Memo</b> 1- Deburr ends and remove bending marks 2- Prepare tube for swaging as per QSI 002	0.00 0.00				1	0	881/03/08	
130  QC	QC5- Inspect part completeness to step on W/O <b>Memo</b>	0.00 0.00							
Quality Control									

11-3-8

# Work Order ID 65591

Thursday, January 20, 2011 10:22:05 AM



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Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

140

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI 004  
A/R□□□ Aluminum Rod

11/03/10

2-Grind welds on step as per Dwg D2580

3-Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-holt with DT9701 Use tube expander 1/2 x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimension.

BE 11/03/10

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64", adjust stopper not to hit web. Debur

BE 11/03/10

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

BE 11/03/10

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

BE 11/03/10

150



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

8/10/11



# Work Order ID 65591

Thursday, January 20, 2011 10:22:05 AM



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Item ID: D205-634-041

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Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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160



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

*Sulozly*



Memo

0.00

170



HandFinish

Hand Finishing

Pressure Wash per QSI005 4.3

0.00

Memo

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

0.00

*1 0 11/03/16*

185



Powdercoat

Powder Coating

Drab Green(Ref:4.3.5.11)per QSI005 4.3 (Alum)

0.00

*M 104476*

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

*8:50  
320°  
9:20*

0.00

*1 BL 11-3-16*

**Work Order ID 65591**

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Thursday, January 20, 2011 10:22:05 AM

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 0 JH 1103/16

**Work Order ID 65591**

Thursday, January 20, 2011 10:22:05 AM



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Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200

0.00



HandFinish

Hand Finishing

Memo

0.00

1-Install inserts &amp; wearplates &amp; Gaskets as per Dwg. D2580. Use a drop of

Sikaflex on insert holes before installing wearplates

A/R ☐ ☐ ☐ Sikaflex-291 ☐ M116040

Sikaflex expire date: 11/08

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as  
per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step &amp; Aft Cap with

Sikaflex. Clean excess adhesive

A/R ☐ ☐ ☐ Sikaflex-291 ☐ M116040

Sikaflex expire date: 11/08

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch: M116402

x1	0	11/03/16
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 65591**

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Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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210



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

Sub 67117

9

220



Packaging

Packaging

Packaging

0.00

Memo

0.00

Identify and pack for shipping as per PPPD205-634-041

Location: \_\_\_\_\_

PPP Rev: \_\_\_\_\_

PPP 67107

Per 11/3/12

230



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

11/3/18

PP-03-17



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Thursday, January 20, 2011 10:22:01 AM

Page 1

Work Order ID: 65591

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube



Start Date: 1/21/2011

Required Date: 2/10/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30  
KJ IPP Rev P 10.02.19  
per PAR09-043 EC verified by:DD  
IPP Rev. O 06.02.28 Added paperwork EC  
IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q  
10.12.01 as per chg003 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4202-1 		Manufactured	No			140	Each	106.0000	20	20			
Spacer													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				106					
					64608			106					
D2580-1 		Manufactured	No			110	Each	2.0000	1	1			
205 Skidtube bent detail													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				1					
					63051			1					
				ST046				1					
					59856			1					
D2576-3 		Manufactured	No			140	Each	62.0000	1	1			
Step (maching detail)													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				62					
					46661			14					
					52215			48					

BE 11/03/08  
B 66121 (20)

BE 11/03/04  
B 65609 1

BE 11/03/08

# Picklist Print

Thursday, January 20, 2011 10:22:01 AM

Work Order ID: 65591

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 1/21/2011

Required Date: 2/10/2011

Start Qty: 1.00

Required Qty: 1.00

D2855 *drab-green*

Manufactured No

200

Each

54.0000

1

1



*HL*

*11/03/16*

Cap

Location

Loc Qty

Loc Code

FP6

3

*865519*

*x1*

56613

1

63634

2

ST026

51

50513

1

50770

28

51539

2

53791

20

AN3-5A

Purchased

No

200

Each

1,085.000

2

2



*HL*

*11/03/16*

Bolt

Location

Loc Qty

Loc Code

ST350

1085

*115016*

385

*x2*

115371

500

116632

200

AN960JD10L

NAS1149D0332J

Purchased

No

200

Each

0.0000

2

2



*x117010*



*(x2) HL*

*11/03/16*

Washer

# Picklist Print

Page 3

Thursday, January 20, 2011 10:22:01 AM

Work Order ID: 65591



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 1/21/2011

Required Date: 2/10/2011

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130

Purchased

No

200

Each

1,628.000

50

50



Handwritten: 11/03/16

Insert

Location

Loc Qty

Loc Code

FP

689

M116864

X50

115079

689

ST282

939

113238

17

115502

500

115581

422

AN3C4A

Purchased

No

200

Each

1,230.000

50

50



Handwritten: 11/07/16

BOLT

Location

Loc Qty

Loc Code

ST350

1230

M117010

X50

115300

25

115936

8

116075

997

116590

200

AN960C10L

NAS1149C0332  
R

Purchased

No

200

Each

25.0000

50

50



Handwritten: 11/07/16

washer

Location

Loc Qty

Loc Code

ST245

25

M116304

X50

107534

25

Thursday, January 20, 2011 10:22:01 AM

Shop Packet Print

Page 3

# Picklist Print

Thursday, January 20, 2011 10:22:01 AM

Work Order ID: 65591

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 1/21/2011

Required Date: 2/10/2011

Start Qty: 1.00

Required Qty: 1.00

D3566-13 Manufactured 200 Each 26.0000 1 1  
 Gasket  
 LAST ONE LEFT!  
 11/03/16

Location Loc Qty Loc Code

FP012 6

61996 6

FP014 20

64070 20

D3566-5 Manufactured No 200 Each 13.0000 1 1  
 Gasket  
 11/03/16

Location Loc Qty Loc Code

FP 12

64789 12

FP015 1

63574 1

D3566-1 Manufactured No 200 Each 6.0000 2 2  
 Gasket  
 11/03/16

Location Loc Qty Loc Code

FP015 6

57715 1

63573 5

D3564-11 Manufactured No 200 Each 8.0000 1 1  
 Wearshoe  
 11/03/16

Location Loc Qty Loc Code

FP019 8

62236 8

# Picklist Print

Thursday, January 20, 2011 10:22:02 AM

Work Order ID: 65591



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 1/21/2011

Required Date: 2/10/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-13	Manufactured	No	200	Each	16.0000	1	1
							<u>HL 1/103/16</u>
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP17	16	B66549
59660	1	
61828	3	
62229	12	

Y1  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

D3564-9	Manufactured	No	200	Each	17.0000	1	1
							<u>HL 1/102/16</u>
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	1	B65524
55334	1	
FP019	1	
61709	1	
FP19	15	
62238	15	

X1  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

D3564-5	Manufactured	No	200	Each	22.0000	1	1
							<u>HL 1/103/16</u>
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	1	B66148
34806	1	
FP19	2	
57525	1	
58709	1	
FP-19	19	
63575	8	
65058	11	

V1  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Picklist Print

Thursday, January 20, 2011 10:22:02 AM

Work Order ID: 65591



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 1/21/2011

Required Date: 2/10/2011

Start Qty: 1.00

Required Qty: 1.00

D2594-3

Manufactured No

200

Each

739.0000

16

16



O-Ring, 205 Skidtube



*Handwritten: 11/03/16*

Location

Loc Qty

Loc Code

FP

43

55546

19

58191

12

59358

12

fpa

696

61762

696

*Handwritten: X16*

D2594-1

*Handwritten: drab green*

Manufactured No

200

Each

235.0000

16

16



Plug, 205 Skidtube



*Handwritten: 11/03/16*

Location

Loc Qty

Loc Code

FP

183

42807

112

55002

71

FP14

52

58434

15

62893

37

*Handwritten: B65512*

*Handwritten: V16*

**DART****RELEASED**  
07.06.28 #**DEO ATTACHED**

#65591

DESIGN #	DRAWN BY RH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2580	REV. 0 SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
SEE NOTES ON  
PAGE 2 FOR D2580-041 AND  
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

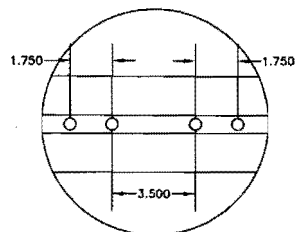
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

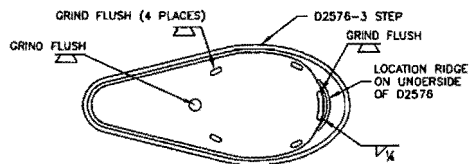
**NOTE:** Date & initial all entries

**DETAIL A**  
SCALE 5:24



16559#

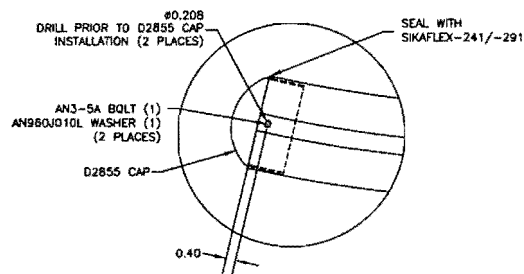
**DETAIL B**  
SCALE 5:24



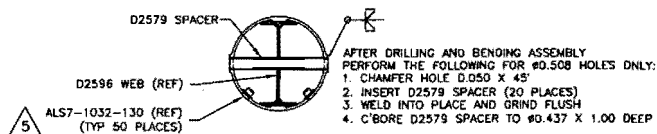
**RELEASED**  
07.06.28

**DEO ATTACHED**

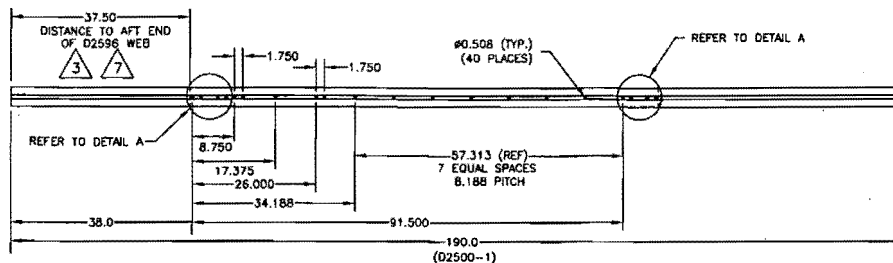
**DETAIL C**  
SCALE 5:24



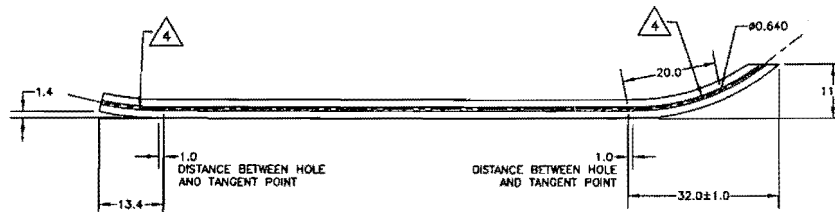
**SECTION D-D**  
SCALE 5:24



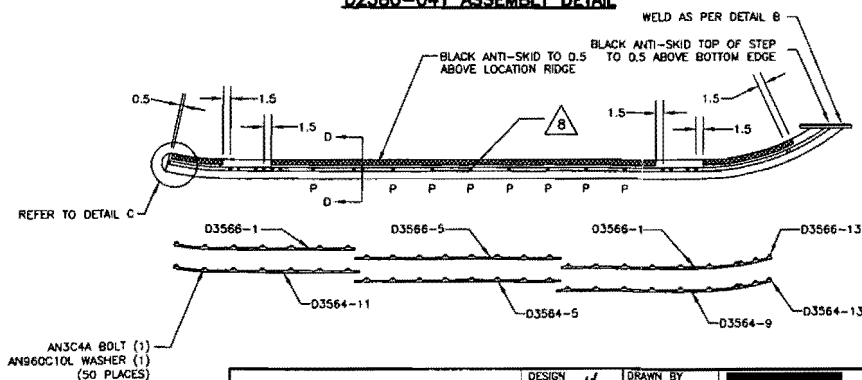
**D2580-1 DRILLING DETAIL**



**D2580-1 BENDING AND CUTTING DETAIL**



**D2580-041 ASSEMBLY DETAIL**



**D2580-041 NOTES**

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

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DESIGN	DRAWN BY	<b>DART</b>	DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.	REV. 0
DATE		D2580	SHEET 2 OF 3
07.02.27		TITLE	SCALE
		205 SKIDTUBE ASSEMBLY	1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

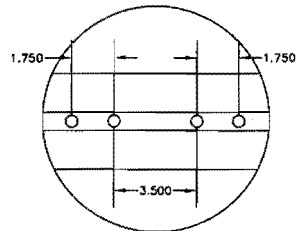
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

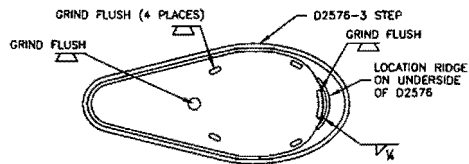
**NOTE:** Date & initial all entries

SCALE 5:24

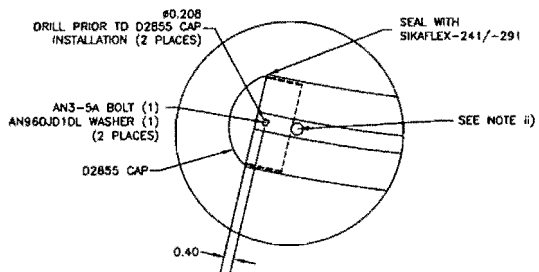


RELEASED  
07-16-28

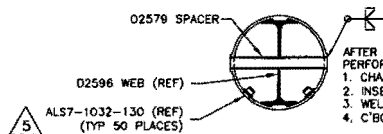
**DETAIL F**  
SCALE 5:24



**DETAIL G**  
SCALE 5:24



**SECTION H-H**  
**SCALE 5:24**



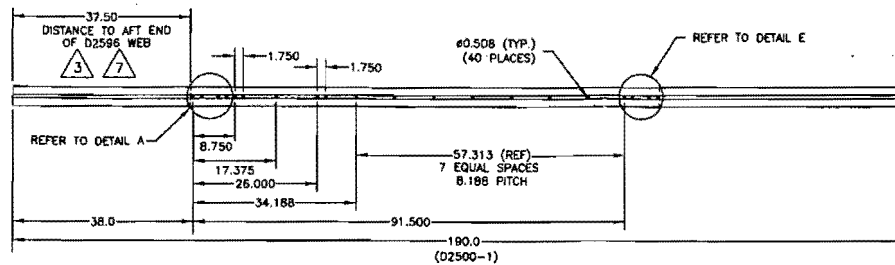
AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

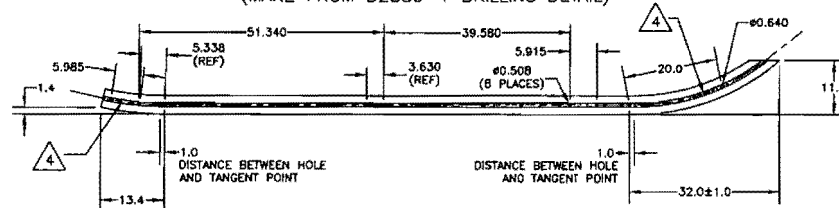
**D2580-045 NOTES**

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE  
WITH THE SPACER AT THIS LOCATION

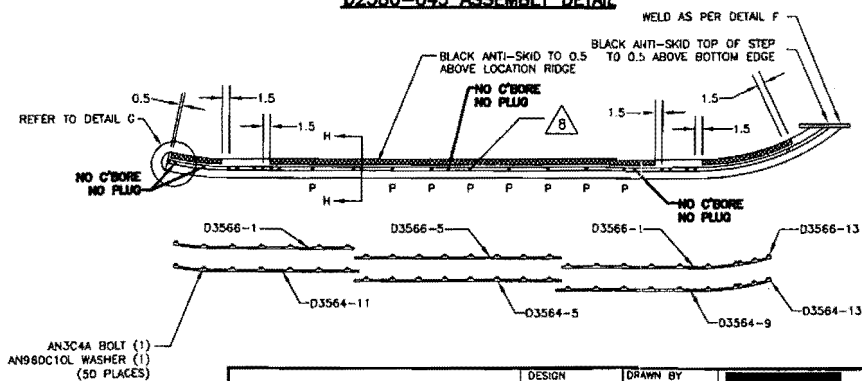
D2580-1 DRILLING DETAIL



**D2580-5 BENDING AND CUTTING DETAIL**  
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



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## DESIGN

1

CHECKE

SECRET

DATE

DATE \_\_\_\_\_

07.02

**DRAWN BY**

PL

APPROVED

7

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**Abstract**

**DART**

**DART AEROSPACE LTD.**  
HAWTHORNSBURY, ONTARIO, CANADA

DRAWING NO.

D25B0

02580

1	TITLE
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205 SK

REV

SHEET 1 OF 2

SHEET 30

**SC**

ASSEMBLY

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DRAWING NO. D2580	TITLE 205 SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D2580-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>L</i>	MFG. APPR. <i>R</i>	APPROVED <i>MP</i>		DE APPR. <i>H</i>		
DATE 10.09.22	DATE 10.11.04	DATE 10.11.04	DATE 10/11/04		DATE 10.11.04		

**PURPOSE:**

CHANGE ALL WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

**CHANGE:**

PARTS LIST IS AMENDED AS FOLLOWS:

*16559 #*

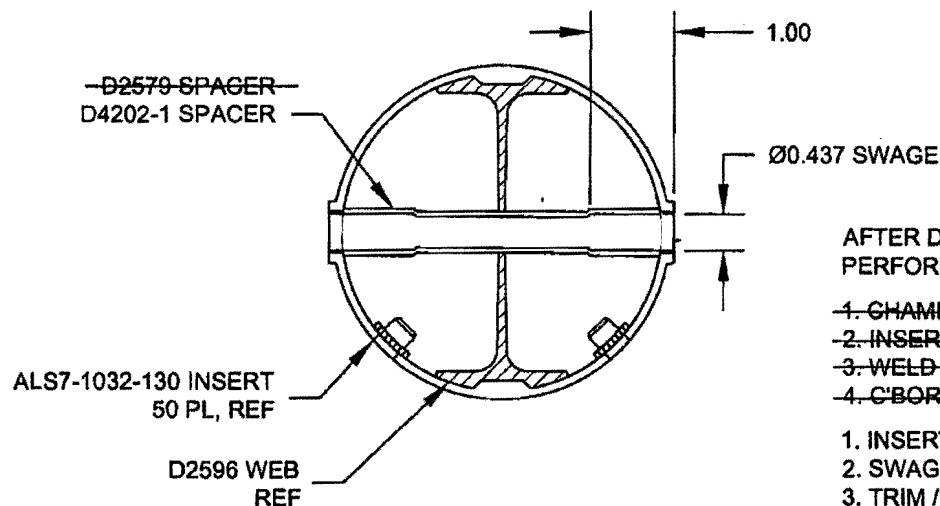
**WAS**

QTY	QTY	PART NUMBER	DESCRIPTION
-041	-045		
20	24	D2579	CROSS BOLT SPACER

**IS**

20	24	D4202-1	SPACER
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SECTION D-D & SECTION H-H ARE AMENDED AS FOLLOWS:



**RELEASED**  
2010-11-18  
*MP*

AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 24 PL (-045)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

**SECTION D-D**  
NOT TO SCALE

**SECTION H-H**  
NOT TO SCALE

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries